



## Procedure

# Confined Space Atmosphere Testing

## Key Control Data Sheet

Procedure Number: RSK-PRO-KCD-025

Scope of Application: Ok Tedi Mining Limited

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Document Owner: Manager – OHS & Training

**Why is the Control Important** – Testing of the atmosphere for O<sub>2</sub>, LEL and any other hazardous gases which may be present prior to entry prevents exposure to personnel entering the space and confirms isolation, decontamination and purging has been adequate.

**Exemption** – No exemptions permitted.

## Confined Space Atmosphere Testing

### Operational Requirements

#### 1. Performance Metrics

There is a confined space permit prepared prior to entry which lists gas testing requirements prior to entry and whilst personnel are inside the Confined Space.	Atmosphere testing of all Confined Spaces must be completed using an in-date calibrated atmosphere monitoring unit prior to entry.
Atmosphere monitoring units must be field calibrated (bump tested) against a known reference point or sample, immediately prior to use.	Atmosphere testing must measure %oxygen, flammable concentration (%LEL) and airborne contaminants.
Ventilation purging of the space must stop during atmosphere monitoring.	Samples for atmosphere monitoring must be taken from locations susceptible to gas build up (e.g. upper lower levels of compartment, corners, etc)
Entry must not occur, and the space evacuated if the atmosphere measurements are not: O2 between 19.5% - 23.5%, LEL below 5%, CO below 30 ppm, CO2 below 5000ppm.	

#### 2. Utilisation

Atmosphere testing is conducted prior to initial entry and periodically / continuously thereafter (as specified on the Confined Space Entry Permit) but at least once every 24hrs.

#### 3. Safety Critical Defeat Requirements

No defeats permitted.

#### 4. Testing & Verification

At least once per confined space activity:

- Verify the pre-entry atmosphere monitoring was conducted, recorded on the confined space entry permit and measurements were in specification.
- The atmosphere monitoring unit used is in date for calibration.

#### 5. Maintenance

Atmosphere monitoring units must be maintained, including calibration, in accordance with manufacturer recommendations. However, calibration should not exceed 6 months.

## Confined Space Atmosphere Testing

### **6. Training & Competency**

Confined Space Permit preparers – identification of gases to be tested

Confined space permit issuers – requirements to conduct gas test and acceptable levels of hazardous gases

Atmosphere Monitoring – use of meter, bump/challenge testing, interferences or limitations of meter, properties of gases to assess testing locations.

## Confined Space Atmosphere Testing

### Task Requirements

The following are the key day to day requirements operators/maintainers and supervisors must follow to ensure the control is being used correctly.

#### 1. Task Requirements

No.	Supervisor	Operator/Maintainer
1	Prepare Confined Space Permit listing gases to be tested and locations.	Only conduct confined space atmosphere monitoring or entry if trained, assessed as competent and the training is current.
2	Provide gas detection equipment which is calibrated.	Space is tested prior to entry, periodically as per instructions on the Confined Space Permit at least every 24 hours.
3		Meter is suitable, in date for calibration and bump/challenge tested prior to every sample.
4		Entry to space is disallowed if gas test results are not: O2 between 19.5% - 23.5%, LEL below 5%, CO below 30 ppm, CO2 below 5000ppm, or the specified range of other gases on the confined space entry permit.
5		All sample results are recorded on the confined space entry permit.

#### 2. Skills Requirements

Personnel conducting gas tests must be trained and authorised.

#### 3. Permits

Gas testing results are recorded on the Confined Space Entry Permit.

#### 4. Task Specific PPE Requirements

PPE requirements for personnel conducting confined space gas testing is specified on the Confined Space Permit.

#### 5. Special Task Related Tooling

No additional requirements.

## Confined Space Atmosphere Testing

### Design Requirements

#### 1. Design Standard

AS2865 – Entry to Confined Space, including removal of the need to entry a space and, ease of entry and exit where this cannot be eliminated.

OHSA -1910.146 – Permit Required Confined Spaces.

#### 2. Safety Parameters

Personnel conducting atmosphere testing must be protected from exposure to the confined space atmosphere during sampling.

Atmosphere monitoring units must be suitable for use in potential atmosphere (e.g. explosive atmosphere).

#### 3. Design Life

Not applicable.

#### 4. Safe Separation

Not applicable.

#### 5. Special Requirements

No additional requirements.